Rice (Oryza sativa L.) serves as a staple food for more than three billion people worldwide. Aerobic rice requires the same amount of nutrients as flooded rice, but in the former, there is a problem of phosphorus (P) availability, due to its fixation with other elements. In the soil, P becomes unavailable due to fixation and immobilization and about 70-90% phosphatic fertilizers become fixed in soil. Microorganisms play an important role in agriculture by supplying nutrients to the plants and reduce the demand of chemical fertilizers. Microorganisms, especially phosphate-solubilizing bacteria (PSB) have the ability to solubilize, insoluble P in soil and reduce inputs of chemical fertilizers. Besides PSB are also capable of producing indole-3-acetic acid, a phytohormone known to be involved in root initiation, cell division and cell enlargement. Furthermore, these strains have ability to stimulate the growth of roots and shoots and increased 32P-labeled phosphate uptake in the plants.

Qurban Ali Panhwar, PhD: Author is from Agriculture Department, Govt of Sindh, Pakistan. He has obtained his PhD from Universiti Putra Malaysia. In the year 2012 he has joined as "Post Doctoral Researcher" at Department of Land Management, Faculty of Agriculture, Universiti Putra Malaysia. His research area is soil fertility and soil microbiology

978-3-659-62021-8

PSB and Aerobic Rice

Panhwar, Othman, Naher

Qurban Ali Panhwar
Radziah Othman
Umme Aminun Naher

Role Of Phosphate-solubilizing Bacteria On The Growth Of Aerobic Rice

Phosphate-solubilizing Bacteria and Growth of Aerobic Rice

LAP LAMBERT Academic Publishing